

**REMARKS**

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

**Disposition of Claims**

Claims 23-38 were pending in the present patent application. By way of this reply, claims 24, 25, 31, and 32 are cancelled without prejudice or disclaimer. Also by way of this reply, claims 39 and 40 are added. Accordingly, claims 23, 26-30, and 33-40 are now pending in the present application. Claims 23 and 30 are independent. The remaining claims depend, either directly or indirectly, from claims 23 and 30.

**Claim Amendments**

Claims 23 and 30 have been amended for clarification and to incorporate the subject matter of now-cancelled dependent claims 25 and 32, respectively. No new matter has been introduced by way of these amendments as support for these amendments may be found, for example, in Figure 10 and paragraphs [0072] and [0076] of the published specification.

**Drawings**

The Examiner objects to the drawings for not including a "Prior Art" legend in Figures 1, 2, 3A, 3B, 3C, and 4. *See*, Office Action dated September 13, 2007, at page 2. By way of this reply, Figures 1, 2, 3A, 3B, 3C, and 4 have been amended in accordance with the Examiner's instructions. Accordingly, withdrawal of this rejection is respectfully requested. Applicant respectfully requests that the Examiner acknowledge the amended formal drawings and indicate whether they are acceptable.

**Rejections under 35 U.S.C. §103**

Claims 23-38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,311,265 (hereinafter “Beckerle”) in view of U.S. Patent No. 6,842,898 (hereinafter “Carlson”). By way of this reply, claims 24, 25, 31, and 32 are cancelled and thus the rejection is moot as to those claims. As for the remaining claims, for the reasons set forth below, this rejection is respectfully traversed.

MPEP § 2143 states that “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” In the Office Action mailed September 13, 2007, the Examiner, in articulating the analysis used to reject the claims under 35 U.S.C. § 103, has described the various claimed elements taught and not taught by Beckerle. *See*, Office Action mailed September 13, 2007, at pages 6-8. Further, the Examiner has described the various claimed elements taught by Carlson, which are not taught by Beckerle. *Id.* The Examiner then concludes by asserting that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Beckerle to include the teaching of Carlson ...” *Id.*

Using the above rationale, the Examiner “must articulate the following: (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference; ...” MPEP § 2143(A). Applicant respectfully submits that the Examiner has failed to do so.

Amended independent claim 23 recites, in part:

...invoking a stream operator to write a first data value from the first thread to the second thread, wherein the stream operator connects the first output stream to the second input stream and sends the first data value from the first output stream to the second input stream;

using the second thread to generate a second data value by performing an operation on the first data value; and

invoking the stream operator to write the second data value from the second thread to the first thread, wherein the stream operator connects the second output stream to the first input stream and sends the second data value from the second output stream to the first input stream...

Amended independent claim 30 recites similar limitations. It is explicitly clear that the amended independent claims require, at least, (i) an output stream of the first thread be connected with an input stream of a second thread; (ii) an output stream of the second thread be connected to the input stream of the first thread; (iii) a first value be written from the first thread to the second thread using a stream operator and the streams of (i); and (iv) a second value based on the first value be written from the second thread to the first thread using the stream operator and the streams of (ii).

The Examiner equates a first process (*i.e.*, process 724 in FIG. 61C) and a second process (*i.e.*, process 724B), as disclosed by Beckerle, with the first thread and the second thread, respectively, as recited by the independent claims. In addition, the Examiner contends that Beckerle discloses connecting an output stream of the first thread (*i.e.*, output pipe 758) to the input stream of the second thread. *See*, Office Action dated September 13, 2007, at pages 3

and 4. Even assuming *arguendo* these associations are proper, Applicant respectfully asserts Beckerle fails to teach or suggest that the output stream of the second thread (*i.e.*, process 724B) is connected back to the first thread (*i.e.*, process 724) using the input stream of the first thread. In fact, Beckerle discloses the output of the second thread is connected to the input stream of a third thread (*i.e.*, process 724A). *See*, Beckerle at column 42, lines 25-27. In other words, Beckerle effectively discloses one-way communication from the first thread to the second thread, and from the second thread to a third thread. In contrast, the amended independent claims explicitly require a first value be sent from the first thread to the second thread, and a second value then be sent from the second thread back to the first thread, effectively forming a loop. The system disclosed by Beckerle is completely silent regarding said loop. Accordingly, by failing to disclose said loop, Beckerle does not and cannot satisfy at least requirements (ii) and (iv) of the amended independent claims.

Further still, Beckerle discloses user-defined operator classes having  routines to facilitate inter-process communication. The *inputForkCode( )* routine, *runSource( )* routine, and the *subProcForkCode( )* routine, are all examples of such routines to facilitate inter-process communication. *See, e.g.*, Beckerle at column 42, lines 11-18. In contrast, the amended independent claims explicitly require the existence and use of a stream operator to write data between threads (*i.e.*, to facilitate inter-process communication). Applicant respectfully asserts a stream operator is not equivalent to routine. Accordingly, by failing to teach or suggest stream operators, Beckerle also cannot satisfy at least requirement (iii) of the amended independent claims.

Carlson discloses a data processing system for monitoring a plurality of threads using one or more polling techniques. When it is determined through polling a thread is inactive, a

cleanup procedure is executed. *See*, Carlson at Abstract. Further, the Examiner only cites Carlson to teach communication between threads comprising a program counter, a stack, a state, and a register set. *See*, Office Action dated September 13, 2007, at page 4. The Examiner does not assert that Carlson discloses any of requirements (i)-(iv) of the amended independent claims. Accordingly, Applicant respectfully asserts Carlson does not cure what Beckerle lacks. In other words, Carlson, like Beckerle, discloses neither the communication loop between the first thread and the second thread using the streams (*i.e.*, input stream, output stream), nor the existence and use of the stream operator. Thus Carlson, like Beckerle, also fails to satisfy at least requirements (ii), (iii), and (iv) of the amended independent claims.

In view of the above, Beckerle and Carlson, whether viewed separately or in combination, do not teach or suggest each and every limitation of amended independent claims 23 and 30. Accordingly, the Examiner's contentions do not support the rejection of amended independent claims 23 and 30. Claims 25-29 and 33-38 depend, either directly or indirectly, from amended independent claims 23 and 30, and thus the Examiner's contentions also do not support the rejection of claims 25-29 and 33-38. Accordingly, withdrawal of this rejection is respectfully requested.

### **New Claims**

By way of this reply, claims 39 and 40 have been added. Applicant respectfully asserts no new matter has been introduced by way of these additions as support for these additions may be found, for example, in Figure 10 and paragraphs [0072] and [0076] of the published specification. As discussed above, the Examiner's contentions do not support the rejection of independent claims 23 and 30. Thus, amended independent claims 23 and 30 are

allowable. New claims 39 and 40 depend directly from claims 23 and 30. Accordingly, new claims 39 and 40 are allowable for at least the same reason.

### **Conclusion**

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 36159/098001; P5944).

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Respectfully submitted,

By /Robert P. Lord/  
Robert P. Lord  
Registration No.: 46,479  
OSHA · LIANG LLP  
1221 McKinney St., Suite 2800  
Houston, Texas 77010  
(713) 228-8600  
(713) 228-8778 (Fax)  
Attorney for Applicant

Enclosure      (Replacement Sheets for Figures 1, 2, 3A, 3B, 3C, and 4)